APPLICATION NOTE

Installing and Configuring the Management Interface Card

Introduction

This document describes how to install and configure the ANG-3000/7000 series management interface card, an optional third Ethernet port (RJ-45) on the ANG-3000/7000 series designed for a corporation's management network supporting SNMP, Telnet, Ping, HTTP(s) and ftp services. In large enterprises, the management network is often reserved for the IT department's discreet handling of all corporate management functions. To understand how the ANG-3000/7000 series's management interface can be used in your network, refer to the illustration below.

NOTE

The management interface is configured through the Command Line Interface (CLI) only.

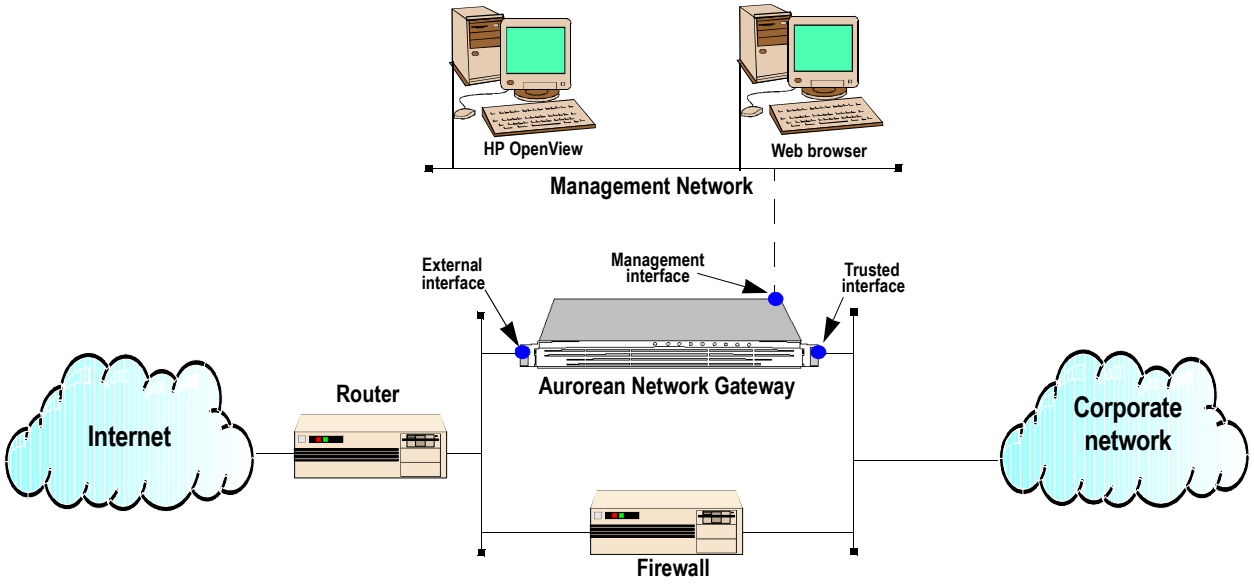

Figure 1 Management Network Topology

This application note provides step-by-step instructions to perform the following:

- ❒ Remove the ANG-3000/7000 series from the rack.
- ❒ Install the management interface card
- ❒ Replace the ANG-3000/7000 series in its rack and re-cable, including connecting a cable from the management connector to the management network.
- ❒ Configure the management interface by using the **ircipaddr** command
- ❒ Restrict access to selected IP services on the management interface by using the **ipsecSelector**, **ipsecRule**, and **ipsecSpd** commands

NOTE

Refer to the application note: *ANG Configuration Using the Command Line Interface* for more details about the `irc` and `ipsec` commands.

Installing the Management Interface Card

This section describes how to install the management interface card in the ANG-3000/7000 series Network Gateway (shown in Figure 1 below).

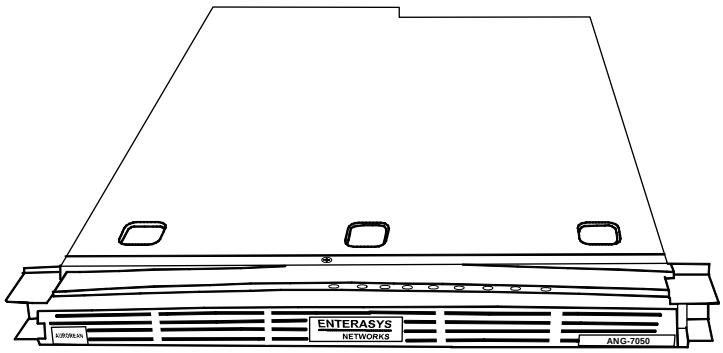

Figure 2 ANG-3000/7000 series

Before You Begin

To start installation, you must access the inside of the ANG. If the ANG is mounted in a relay-style rack, you can install the card, while the ANG is in the rack, if there is enough space above the ANG (at least 12 inches of clearance) to open the ANG's cover. If there is not enough room you will have to remove the ANG from the rack.

If the ANG is mounted with sliding rails, you can easily remove it from the rack.

Removing the ANG-3000/7000 series from the Rack

To remove the ANG-3000/7000 series from the rack, you must first gracefully shut it down to avoid hard disk errors. Follow the instructions below:

1. On your desktop, click Start, select Programs and double-click Command Prompt.
2. Telnet to your ANG. Type: telnet *xxx.xxx.xxx.xxx* (your ANG IP address) and press ENTER.
3. Login (the default is *netadmin*) and press ENTER.
4. Type your password (the default is *netadmin*) and press ENTER.
5. Login as superuser by typing **su -** and press ENTER.
6. Type the default password **welcome** and press ENTER.
7. Save the ANG configuration and shut down all Enterasys services by typing **init 0** and press ENTER.
8. Wait a couple minutes then power off the ANG by holding the power button in for 4 seconds.
9. Remove the Ethernet cable connections.
10. Unfasten the two screws holding the ANG flanges to the rack as shown in Figure 3.

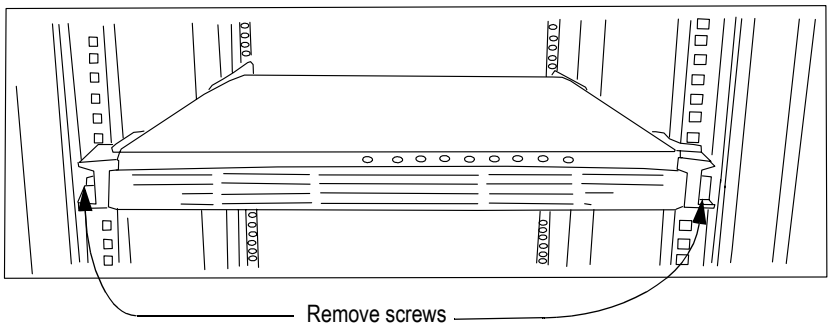

Figure 3 ANG Fastened to Rack

11. Slide the ANG out of the rack as far as possible.
12. When the assembly locks, press the lock arm on both sides of the rails to release the ANG as shown in Figure 4.

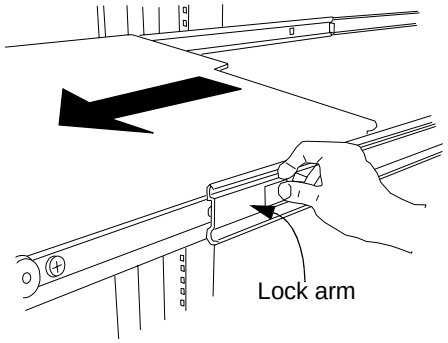

Figure 4 Removing the ANG from the Rack

13. Remove the ANG from the rack.

Remove the Cover

Follow the instructions below to remove the cover, which is attached to the ANG by one screw.

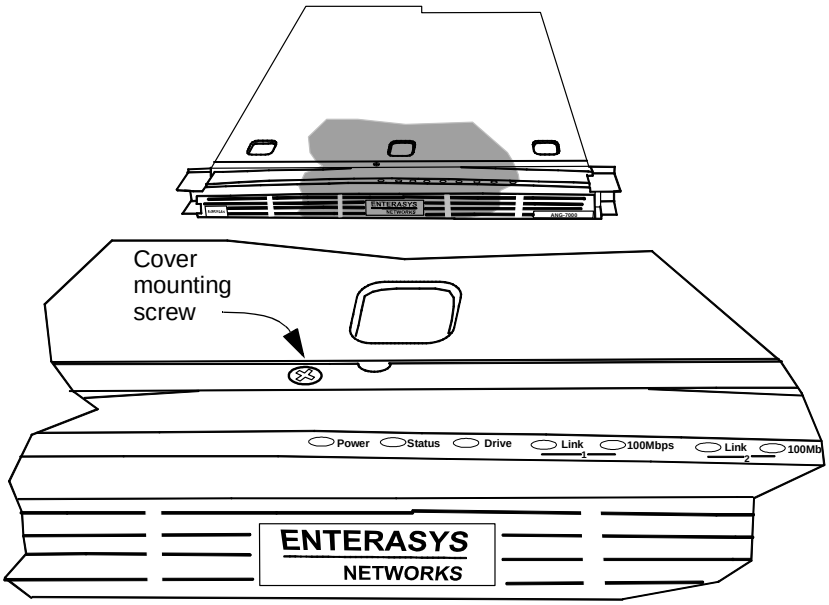

Figure 5 Top Cover Mounting Screw Location

1. Remove the screw holding the cover to the ANG as shown in Figure 5.

2. Slide the cover toward the rear of the ANG. It will move back about 1/2 inch. Press your fingers in the three indents on the cover and apply pressure toward the rear of the ANG. Refer to Figure 6.

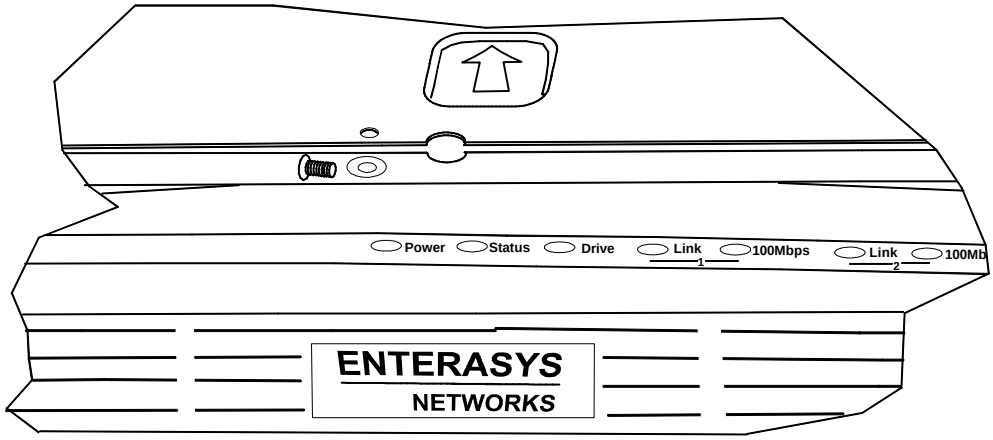

Figure 6 Top Cover Screw Removed

3. From the rear of the ANG, lift the back edge of the cover. It will open as shown in Figure 7.

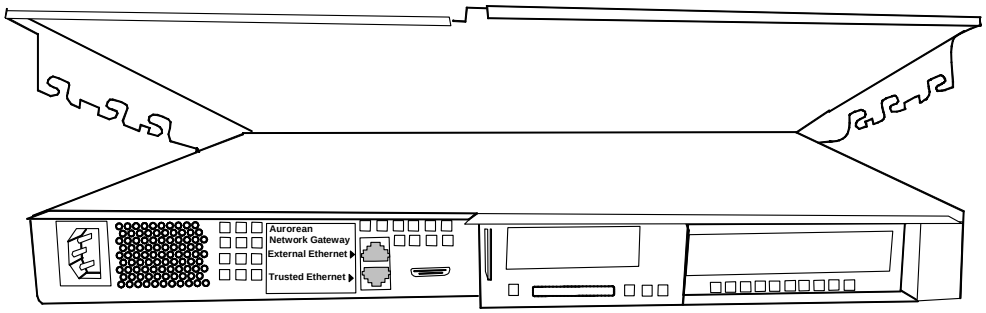

Figure 7 Cover Removed

Management Interface Card PCI Slot Location

The PCI slots, used to install upgrades, are located as shown in Figure 8.

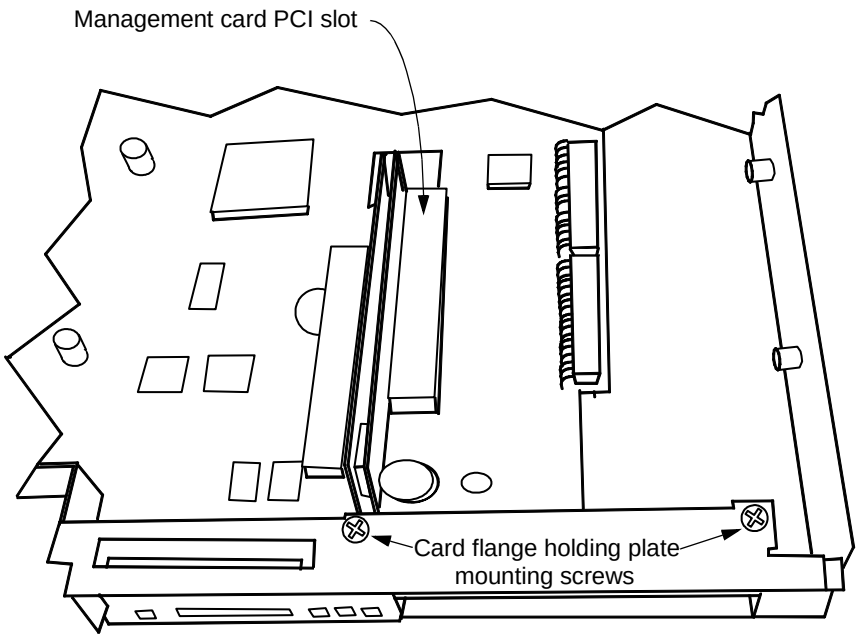

Figure 8 Hardware PCI Slot Location

Removing the Card Holding Plate

To remove the card flange holding plate, remove the two screws as shown in Figure 8. The blank inserts for both card locations are now accessible as shown in Figure 9.

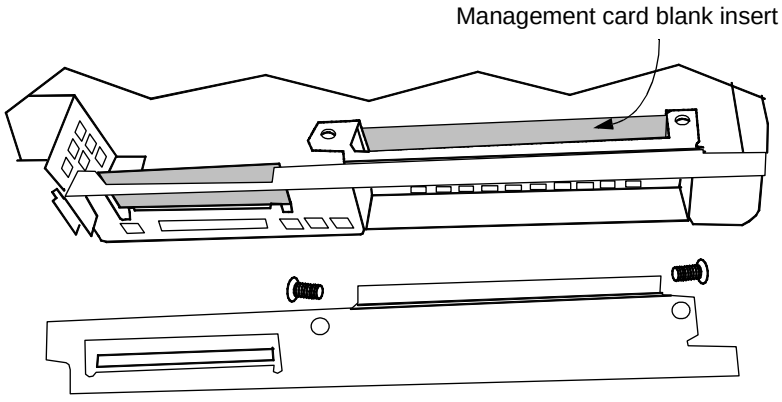

Figure 9 Card Holding Plate Removed

Installing the Management Interface Card

Follow the steps below to install the management interface card (shown in Figure 10).

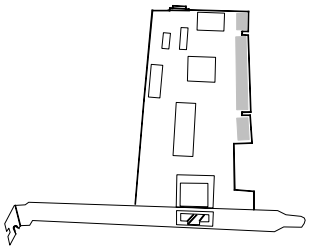

Figure 10 Management Card

1. Remove the Insert from the back of the ANG as shown in Figure 11.

NOTE

Note how this blank plate is mounted to the back of the ANG. The card flange will be installed so that it replaces the blank insert.

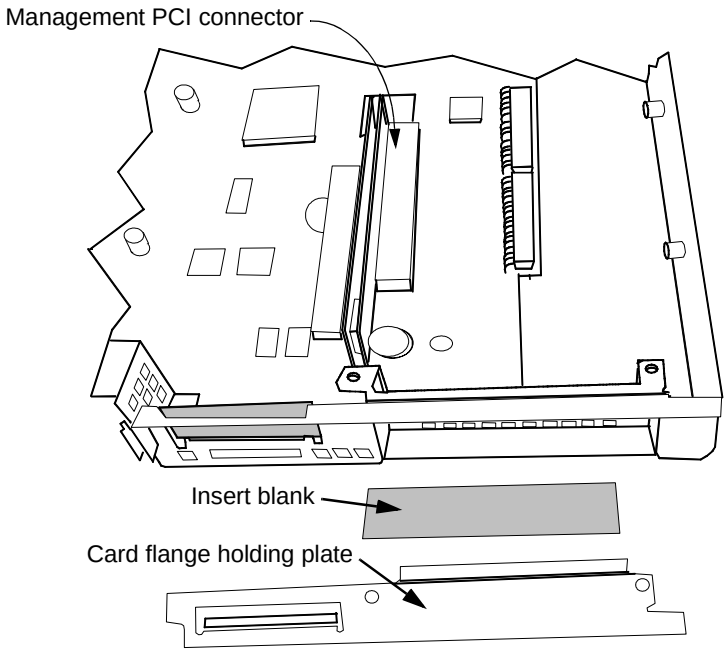

Figure 11 Management Card Insert Blank Removed

2. Flip the management card over so the component side of the card faces down as show in Figure 12.

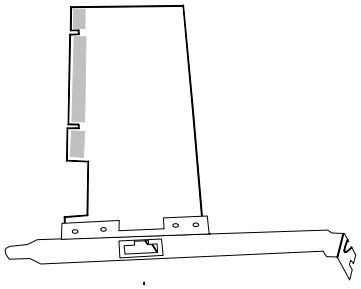

Figure 12 Orientation of Management Card for Installation

3. Remove the PCI riser from the unit.

4. Align the management card fingers with the connector as shown in Figure 13 and plug the card into the connector.

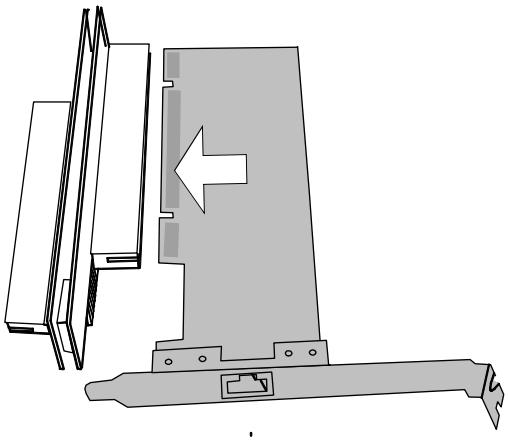

Figure 13 PCI Riser and Management Card

5. Align the PCI riser connector fingers with the PCI connector. Set the card flange over the slots that will capture and hold it to the back of the ANG as shown in Figure 14.

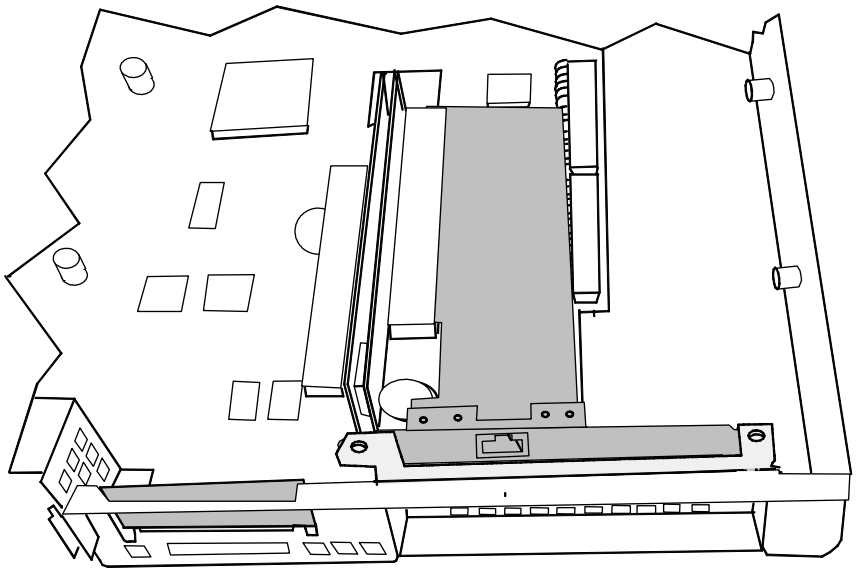

Figure 14 Aligning the Management Card flange with the PCI Connector

6. Insert the PCI riser into the PCI connector.
7. Replace the card flange holding plate with the two mounting screws.
   This holding plate will capture the card flange and hold it securely against the back of the ANG. Refer to Figure 15.

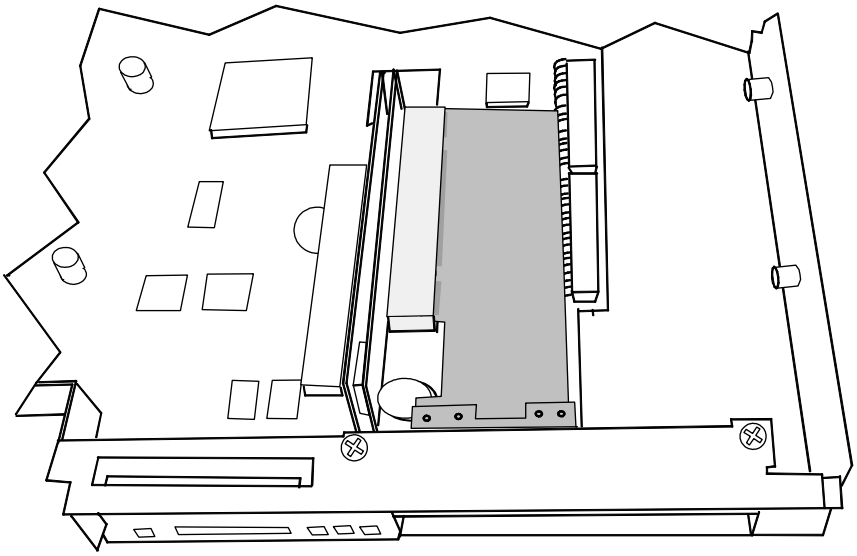

Figure 15 Management Card Installed

Replace the Cover

In order to replace the cover, reverse the three steps in the section "Remove the Cover" on page 4.

1. Set the cover as shown in Figure 7. Place the front of the cover about 1/2 inch behind the front edge of the chassis.
2. Make sure the sides of the cover are inside the sides of the cabinet. The slots on the cover fit over the mounting screw inserts on the side of the chassis and allow the cover to seat itself on top of the chassis sides.

   If the cover does not seat in the chassis sides, the slots are not aligned with the screw inserts. Move the cover (back or forward) accordingly to allow the cover to seat itself.
3. Push the cover forward until the screw holes align themselves. See Figure 5.

Re-install ANG-3000/7000 series In the Rack

Refer to the section "Removing the ANG-3000/7000 series from the Rack" on page 3, and reverse the steps to re-install the ANG in the rack. Reconnect the Ethernet cables to the back of the ANG.

The RJ-45 management interface connector location is show in Figure 16.

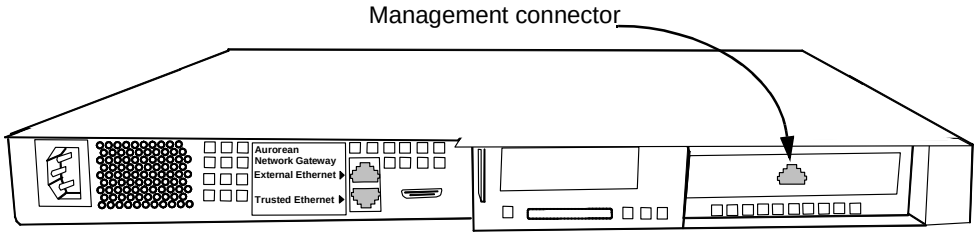

Figure 16 Management Ethernet Connector Location

Configuring the ANG-3000/7000 series Management Interface

The management interface is configured on the Command Line Interface (CLI) using the `ircipaddr` command. You set the IP address, subnet mask and default gateway IP address just as you would set these parameters for the Trusted interface on the ANG-3000/7000 series. To do so, perform the following steps:

1. On your desktop, click Start, select Programs and double-click Command Prompt.
2. Telnet to your ANG. Type: telnet *xxx.xxx.xxx.xxx* (your ANG IP address) and press ENTER.
   A Unix command prompt will display.
3. Login (the default is *netadmin*) and press ENTER.
4. Type your password (the default is *netadmin*) and press ENTER.
5. Change directory to the `irc` directory. Type the following and press ENTER:
   `cd /usr/indus/irc`
6. Examine the `ircipaddr` command parameters below.
   `ircipaddr -n management -i <ANG IP address> -m <ANG network mask> -g <ANG's default gateway>`
7. Issue the `ircipaddr` command by typing the following and pressing ENTER. For example:
   `ircipaddr -n management -i 212.26.12.143 -m 255.255.255.0 -g 0.0.0.0`
8. Enter the `ircipaddr -L` list command to verify the interface was set. Type **ircipaddr -L** and press ENTER.

Interface	IP Address	Subnet Mask	Default Gateway
trusted	53.110.245.2	255.255.255.0	53.110.245.1
external	123.141.13.21	255.255.255.0	0.0.0.0
management	212.26.12.143	255.255.255.0	0.0.0.0

Configuring IP Security

To manage the IP traffic you will restrict access to, you must define the selector, rules, and SPD. The SPD is the means by which the rules are bound to the management interface.

NOTE

For more detailed configuration information, refer to the Application Note: *ANG Configuration Using the Command Line Interface*.

To begin configuring IP services, change directory to: **`/usr/indus/ipsec`**

Defining the Selector

The following command applies rules to SNMP, TELNET, HTTPS and ICMP protocols (and their associated port numbers) originating from a Class C, 192.168.100.0 network. The HTTPS selector identifies the type of traffic that is used to manage the ANG with the Web Config configuration utility. Note that the defined port number is 8080 rather than the standard HTTPS port number of 443. This is an Enterasys ANG-specific implementation; the underlying protocol and security remains standard SSL.

The configuration defines named selectors to reach the "local" interface from the given "remote" network outside the interface. The combination of protocols and ports define the IP service to which access is restricted. The specific "local" interface is specified later when binding the corresponding rule to a particular physical interface (that is, the management interface).

ipsecSelector -a -n SNMP -o physical -r 192.168.100.0/24 -p UDP -v 161 -w 0

ipsecSelector -a -n TELNET -o physical -r 192.168.100.0/24 -p TCP -v 23 -w 0

ipsecSelector -a -n HTTPS -o physical -r 192.168.100.0/24 -p TCP -v 8080 -w 0

ipsecSelector -a -n ICMP -o physical -r 192.168.100.0/24 -p ICMP

The command switches are defined as follows:

-a	Adds a Selector
-n	Defines the Selector name (SNMP, TELNET, HTTP(S), ICMP, for example)
-o	Sets the local address - virtual or physical (the address of the interface the selector is applied to)
-r	Specifies the remote address
-p	Specifies the protocol (ANY, TCP, UDP, ICMP, GRE)
-v	Sets the local port number (0 for any)
-w	Sets the remote local port number (0 for any)

Defining the Rules

After the Selectors have been configured, you must define the rules the ANG will use to perform a particular action on the selectors. The following command applies the *pass* Rule to all selectors.

ipsecRule -a -n SNMP -s SNMP -w pass

ipsecRule -a -n TELNET -s TELNET -w pass

ipsecRule -a -n HTTPS -s HTTPS -w pass

ipsecRule -a -n ICMP -s ICMP -w pass

The command switches are defined as follows:

-a	Adds a Rule
-n	Defines the Rule name
-s	Specifies the Selector name
-w	Defines the action taken on matching packets (Process, Drop or Pass)

Defining the SPD

After the Rules have been stipulated, you must bind the Rules to the management interface of the ANG-3000/7000 series with a Security Policy Database (SPD).

The implicit rule is to drop all traffic and is applied at the end of the list of rules defined in the SPD. The example below restricts SNMP, TELNET, HTTPS and ICMP traffic to the Management Interface from the 192.168.100.0 network. Similar services can be defined and applied to this or any other interface on the ANG.

The following command specifies the SPD:

ipsecSpd -a -n management -r 'SNMP;TELNET;HTTPS;ICMP'

The command switches are defined as follows:

-a	Adds an SPD entry
-n	Specifies the Management Interface name
-r	Specifies the Rule name or a separated list of Rule names (with a semi-colon). Rules are bracketed by quotations

Configuration is now complete.

Technical Support

If you experience problems while installing the management interface card, Enterasys Networks recommends that you first contact your network administrator or corporate help desk. Using the diagnostic tools provided by Aurorean equipment at the corporate site, they can help you isolate and resolve most connection problems.

When you contact your network administrator or corporate help desk, please have the following information available:

- The version of the Aurorean Network Gateway system software you are running. Detailed information can be obtained by telnetting to the ANG, changing directory to `/usr/indus`, typing `version.txt` and pressing Enter. The current Aurorean Virtual Network release number and name, patch and build numbers will display.
- Details about any recent configuration changes or new applications you may have installed, if applicable.

Contacting Enterasys Networks

For more information about Enterasys Networks, consult the following table:

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Address	35 Industrial Way Rochester, NH 03866
Phone	1-877-641-7400
Fax	(603) 337-2211
Internet	http://www.enterasys.com
Sales	1-877-641-7400 www.enterasys.com
Support	Call the Enterasys GTAC at 1-800-872-8440 or email us at support@enterasys.com

Please include your name, title, company, and phone number in all correspondence. Enterasys Networks offers 7x24 customer support by calling **1-800-872-8440** or by sending E-mail to support@enterasys.com.

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